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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/672,274	09/24/2003	Christopher C. Toly	SIMU0008	9373

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EXAMINER

HADIZONOOZ, BANAFSHEH

ART UNIT	PAPER NUMBER
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3714

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/672,274	Applicant(s) TOLY, CHRISTOPHER C.	
	Examiner Banafsheh Hadizonooz	Art Unit 3714	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 June 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 24-26 and 49-92 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 24-26, 49-92 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Detailed Action

In response to the amendment filed on 06/16/2006 claims 24-26, 49-92 are pending in this office action. Claims 1-23 and 27-48 were previously cancelled. This office action is made Non-final.

Claim Rejections - 35 USC § 112

Claim 66 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The term conventional mentioned in the claim has different interpretations at different times. The applicant has not specified in the specification what exactly is considered to be conventional at the time.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 24, 50, 65, 72, 75, 77 are rejected under 35 U.S.C. 102(e) as being unpatentable over Bailey et al (US 6,267, 599) in view of Lacey et al (US 2005/0084833).

[Claim 24, 50,65,72, 75, 77]: Lacey discloses a system comprising a housing defining a practice volume (e.g. body), a digital video camera disposed within the practice volume, the digital camera being configured to capture a plurality of frames per second, such that the digital video camera can provide a digital video feed of at least a portion of the practice volume (e.g. perspective views)(See P.1, [0005]-[0014]) and a support structure such as a boom comprising an elongate member(e.g. adjustment handle), having a proximal end disposed outside of the practice volume, and a distal end disposed inside the practice volume (See Fig 2, element 20), the digital video camera being coupled with the distal end of the elongate member such that manually changing a position of the proximal end of the elongate member results in a video camera externally of the elongate member. (See P.2, [0042]-[0043]).

Regarding claims 65, Lacey further discloses an elongate member having proximal end disposed outside the practice volume and the distal end disposed inside the practice volume, and the digital camera being coupled to the distal end of the elongate member.

Regarding claims 72 and 75, In addition to the above, Lacey further discloses a signal processor (See Figure 5, element 40) configured to process the digital video signal from the digital image sensor, to provide a display video signal that conveys the images (See P.2, [0049]), the signal processor (e.g. computer) being disposed external to the housing (See P.2, [0044]), and a display (e.g. computer screen) for displaying the images conveyed by the display video signal (See Figure 1, element 7).

Regarding claim 77, Lacey further disclose a boom (e.g. an adjustment handle) such that manipulating the proximal end of the boom changes the position of the digital image sensor.

[Claim 49, 62, 76]: Lacey further discloses wherein the digital video camera is substantially larger than a smallest incision that would be required to insert the laparoscope into a body of patient (See Figure 2, the incisions are smaller than the camera showed in Figure 3).

[Claim 60]: Claim 60 is rejected for the reasons given above for claims 24 and 49.

[Claim 61]: Lacey further discloses a housing defining a practice volume, a digital video camera disposed within the practice volume, producing a digital video signal conveying images of at least a portion of the practice volume (See P.2, [0048]) and a support structure (e.g. Adjustment handle) the digital camera being coupled to and supported by the support structure, the support structure enabling the digital video camera to be movably positioned within the practice volume to change a position of the digital video camera so as to obtain an image of a different portion of the practice volume, the support structure movably supporting the digital video camera without substantially enveloping the digital video camera (See P.2, [0043]-[0044]).

[Claim 64, 65]: Lacey further discloses a support structure that is substantially disposed within the housing, and wherein the elongate member has proximal end disposed outside the practice volume and the distal end disposed inside the practice

volume and the digital video camera being coupled to the distal end of the elongate member. (See Figure 2, element 20).

[Claims 56, 66]: Lacey further discloses wherein the proximal end of the elongate member comprises a handle configured to simulate a handle of the generally conventional laparoscope (See Figure 2, elements 5 and 20).

[Claim 81, 82, 87]: with respect to claim 81, Lacey discloses a system comprising: Providing a surgical trainer that defines a practice volume (e.g. body) in which a simulated endoscopic procedure can be performed (See P.1, [0006]), producing a signal conveying images of at least one exercise object from a first position within the surgical trainer, displaying the images of the at least one exercise object conveyed by the signal in regard to the first position (See P.2, [0044]-[0049]), manipulating a support structure that movably supports a digital imaging sensor substantially external to the support structure, the digital imaging sensor being positioned by manually changing a position of the support structure so that the digital imaging sensor produces a signal conveying images of the at least one exercise object from a second position within the surgical trainer(See P.2,[0042]- [0043]), and displaying the images of at least one exercise object conveyed by the signal in regard to the second position (See P.2, [0049]).

Regarding claim 82, Lacey further discloses the step of converting each signal to a display video signal, such that one of analog display, and a digital display (e.g. video images in the form of packets) is driven by the display video signal, to display the images of the at least one exercise object (See P. 3, [0055], and figure 9).

Regarding claim 87, Lacey further discloses transmitting a signal over a network, the signal corresponding to images of the at least one exercise object collected by the digital imaging sensor from at least one of the first and second position (See P.3, [0066]).

[Claim 88]: Regarding claim 88, Lacey's system further comprises the steps of: Introducing at least one exercise object into a practice volume of a surgical trainer (See Fig.1, element 5), using the imaging device (e.g. camera) to produce a signal conveying images of the at least one exercise object from a first position within the surgical trainer, wherein the imaging device is substantially larger than a distal end of a conventional laparoscope, such that the imaging device is too large to pass through an incision used to introduce such conventional laparoscope into a patient (See Fig 2 element 10), displaying the video images(e.g. actual video display) of at least one exercise objects conveyed by the signal in regard to the second position(See Figure 5, image 1...n).

[Claim 90]: Lacey's method further comprises the step of transmitting data over a network that can be used to display images collected by the imaging device. (See P.3, [0066]).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and

the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 25, 26, 51- 53, 63, 67,68, 73, 74, 84 and 89 are rejected under 35 U.S.C 103(a) as being unpatentable over Lacey (US 2005/0084833) in view of Official Notice.

[Claims 25, 26, 51, 52, 53, 67, 73, 85, 92]: Lacey discloses wherein the support structure comprises an adjustment handle protruding from the body (See Figure 2, element 20) and that the cameras are used to capture perspective views of the space in which the instrument moves. However, Lacey does not specifically disclose that the amount of elongate member disposed within the practice volume can be increased and decreased, the elongate member can tilt or pan, or that it extends from the body at substantially non-normal angle. Nonetheless, the Examiner takes official notice that such motions are well known in the art. The adjustments such as tilting, panning, or increasing and decreasing the extent of the elongate member in the body are used so that the camera has the best capture. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Lacey's system such that it enables the camera to be adjusted as desired by the trainee in order to have a better view of the organ being operated.

[Claim 63]: Regarding claim 63, Lacey discloses using a video camera to facilitate the trainee with perspective views of the practice volume, wherein the adjustment handle is protruded from the housing. However, Lacey fails to specifically disclose a ball head camera that enables the digital video camera to pan and tilt.

However, the examiner takes official notice that the ball head camera is a well known technology. Therefore, it would have been obvious to one of ordinary skill in the art to modify Lacey's system to include the ball head camera in order to give trainee a better control over adjustment of the camera for better view.

[Claims 68, 74, 84 and 89]: Lacey discloses a surgical trainer wherein a support member (e.g. Adjustment handle) is connected to the camera. Lacey does not expressly mention the support member can be locked such that once the elongate member extends within the practice volume to a desired length its position is locked to inhibit undesired movements. Nevertheless, the examiner takes official notice that it is obvious that having a precise image of the moving instrument is crucial in laparoscopic and edoscopic surgeries. Therefore, it would have been obvious at the time of invention to modify Lacey's system, to include a locking system in order to hold the camera at a desired position and angle in order to display a better image to the trainees.

Claim 57 is rejected under 35 U.S.C 103(a) as being unpatentable over Lacey (US 2005/0084833).

[Claim 57]: Lacey discloses a boom (e.g. adjustment handle) connected to a camera that is protruded from the practice volume. The images from the Camera are transmitted to a processor configured to generate a signal usable to drive a display (See P.2, [0049] and figure 5). Lacey does not expressly disclose that the boom includes a hollow shaft configured to receive electrical leads.

At the time of invention it would have been an obvious matter of design choice to a person of ordinary skill in the art to transmit the electrical signals provided by the

camera to a processor. The applicant has not disclosed transmitting the signals through a hollow shaft provides any advantage or solves any problem. One of ordinary skill in the art furthermore, would have expected the invention to work equally well if the signals were transmitted to the display device by other means. Therefore, it would have been obvious to modify Lacey's system to include a hollow boom, because such modification would have been considered a mere design choice, which fails to patentably distinguish over the prior art of Lacey.

Claim 70 is rejected under 35 U.S.C 103(a) as being unpatentable over Lacey (US 2005/0084833) in view of Day (GB 2338582 A).

[Claims 70]: Lacey discloses a surgical trainer system in the form of a body with flexible material in torso area that simulates skin. However, Lacey does not expressly teach that the panel is replaceable. Day teaches a surgical simulator system, which incorporates replaceable pre-cut access cavities that facilitates the entry of the instruments into the body cavity (See Figure 1, element 1). Therefore, it would have been obvious to incorporate the feature of Day's invention into the system of Lacey in order to make the maintenance of the device easier.

Claim 59 and 71 are rejected under 35 U.S.C 103(a) as being unpatentable over Lacey (US 2005/0084833) in view of Hon (US 6, 074,213).

[Claims 59, 71]: Regarding claims 59 and 71, Lacey's system comprises video camera. However Lacey does not expressly teach that the video cameras include a web camera. However, Hon discloses a system for medical training of a multi locational

team, wherein communication takes place over a high speed network (See Col.4, 19-36), and wherein live cameras are provided to allow the participants to see the actions of other people involved in the simulation (See Col.6, 6- 14). Therefore, it would have been obvious to one of ordinary skill in the art to incorporate the features of the Hon's invention into the system and method of Lacey in order to enable the users to send live videos over the network.

Claims 69, 78, 80, 86, 91 are rejected under 35 U.S.C 103(a) as being unpatentable over Lacey (US 2005/0084833) in view of Hasson (US 5, 947, 743).

[Claim 69]: Regarding claim 69, Lacey discloses a surgical trainer system, wherein cameras are connected to a support member (e.g. adjustment handle). However, Lacey does not expressly disclose a mounting bracket configured to enable a position of a distal end of the elongate member within the practice volume to be selectively adjustable by pivotally engaging one of the elongate members and the housing. Hasson discloses pedestal-type support for the camera that that supports the position of the camera. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to incorporate the features of Hasson's invention into the limitations of Lacey's invention in order to provide a better view of the moving object inside the practice volume (See P.5, 45-61).

[Claims 78, 80]: regarding claim 78, Lacey discloses a system comprising video cameras, wherein the cameras provide perspective views of the practice volume. However, Lacey fails to teach a non volatile memory medium to store the images. Hasson discloses a non volatile memory medium (e.g. tape) electronically coupled with

the digital image sensor and configured to store the digital video signal for later use (See Col.5, 62-67). Therefore, it would have been obvious to one of ordinary skill in the art to incorporate the features of Hassons invention into the system and method of Lacey in order to be able to use the records for future references.

Regarding claim 80, Lacey/Hasson further disclose a processor (e.g. computer), processing the digital video signal to produce the display video signal (e.g. through motion analysis engine) and transmitting data conveyed by at least one of the digital video signal, storing the digital video signal in a non-volatile memory, and the display video signal to another computing (e.g. motion analysis engine) device using a network connection (See P.2, [0048]-[0049]). Lacey/Hasson does not specifically disclose a memory in communication with the processor, said memory storing machine instructions that causes the processor to carry out a plurality of functions. However, such feature is a known to be included in every computer. Thus the processor of claim 80 inherently has the claimed memory to store the instructions.

Regarding claim 86 and 91, Lacey/Hasson teach the step of storing a signal (e.g. on recording tape) corresponding to images of the at least one exercise objects collected by the digital imaging sensor from at least one of the first and second position, wherein the stored data are reusable after the session is complete.

Response to Arguments

Applicant's argument with respect to claim rejections under 35 U.S.C 112 is moot in view of the newly amended claims.

Applicant's argument regarding claim rejections under 35 U.S.C 103 is moot in view of the new grounds of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Banafsheh Hadizonooz whose telephone number is 571-272-1242. The examiner can normally be reached on 8:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Pezzuto can be reached on (571) 272- 6788. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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BH

Kathleen Moser
Primary Examiner
Art unit 3714

A handwritten signature in black ink, appearing to read 'Xuan M. Thai', is positioned above the printed name.

XUAN M. THAI
SUPERVISORY PATENT EXAMINER

TC3700